IN THE CLAIMS

1. (Currently Amended) A method for transmitting information in an optical communication system, comprising:

transmitting an optical information signal at a wavelength over an optical link with a first and a second end;

pre-distorting for dispersion the optical information signal proximate the first end of the optical link to introduce an initial dispersion in the optical signal in the amount of at least 1000 picoseconds per nanometer (ps/nm), wherein this initial dispersion causes a widening of optical pulses of the optical signal;

amplifying the optical signal in-line on the optical link between a transmitter and a receiver without the use of any in-line dispersion compensating modules; and

compensating the optical information signal proximate the second end of the optical link for dispersion, wherein the pre-distortion and the compensation have opposite polarity at the transmitting wavelength and wherein the compensation is in the amount of at least 10,000 ps/nm.

2. (Original) The method of Claim 1, wherein pre-distorting for dispersion occurs at a node in a first office including a transmitter.

3. (Original) The method of Claim 1, wherein compensating the optical signal occurs at a node in a second office including a receiver.

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Original) The method of Claim 1, further comprising amplifying the optical signal proximate the first end of the optical link in connection with pre-distorting for dispersion.

8. (Original) The method of Claim 5, wherein the optical information signal is amplified proximate the first end of the optical link by an erbium-doped fiber amplifier.

9. (Original) The method of Claim 1, wherein the optical information signal is pre-distorted for dispersion by a dispersion compensating module having a same polarity as the optical link.

10. (Previously Presented) The method of Claim 1, wherein the optical information signal is transmitted over a 200 kilometer section of the optical link without transmitting over a dispersion compensating module.

11. (Previously Presented) The method of Claim 1, wherein the optical information signal is transmitted over a 500 kilometer section of the optical link without transmitting over a dispersion compensating module.

12. (Original) The method of Claim 1, wherein the optical information is signal is transmitted over a 1000 kilometer section of the optical link without transmitting over a dispersion compensating module.

13. (Original) The method of Claim 1, wherein the optical information signal has a bit rate of 40 Gb/s or above.

14. (Original) The method of Claim 1, wherein the optical information signal is compensated proximate the second end of the optical link for dispersion by a dispersion compensating module.

15. (Original) The method of Claim 1, further comprising amplifying the signal proximate the second end of the optical link in connection with compensating the optical signal.

16. (Original) The method of Claim 15, wherein the optical information signal is amplified by a distributed Raman amplifier (DRA).

17. (Original) The method of Claim 15, wherein the optical information signal is amplified by an erbium-doped fiber amplifier.

18. (Original) The method of Claim 14, wherein the dispersion compensation module comprises at least one Raman amplified dispersion compensating fiber (DCFRA).

19. (Original) The method of Claim 1, wherein the optical information signal is compensated proximate the second end of the optical link for dispersion by two or more amplifiers with two or more dispersion compensating modules.

20. (Currently Amended) An optical communication system, comprising:

means for transmitting an optical information signal at a wavelength over an optical link with a first end and a second end;

means for pre-distorting for dispersion the optical information signal proximate the first end of the optical link to introduce an initial dispersion in the optical signal in the amount of at least 1000 picoseconds per nanometer (ps/nm), wherein this initial dispersion causes a widening of optical pulses of the optical signal;

means for amplifying the optical signal in-line on the optical link between a transmitter and a receiver without the use of any in-line dispersion compensating modules; and

means for compensating for dispersion the optical information signal proximate the second end of the optical link, wherein the pre-distortion and the compensation have opposite polarity at the transmitting wavelength and wherein the compensation is in the amount of at least 10,000 ps/nm.

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Original) The system of Claim 20, further comprising means for amplifying the optical signal proximate the first end of the optical link in connection with the means for pre-distorting for dispersion.

25. (Currently Amended) A optical communication system, comprising:

an optical link with a first end and a second end;

a first dispersion device proximate the first end of the optical link configured to pre-distort ~~for dispersion~~ optical information signals transmitted over the optical link ~~coupled to the optical link~~ to introduce an initial dispersion in the optical information signals in the amount of at least 1000 picoseconds per nanometer (ps/nm), wherein this initial dispersion causes a widening of optical pulses of the optical information signals;

a plurality of amplifiers configured to amplify the optical signal in-line on the optical link without the use of any in-line dispersion compensating modules; and

a second dispersion device proximate the second end of the optical link configured to compensate for dispersion in the optical information signals in the amount of at least 10,000 ps/nm ~~and coupled to the optical link~~, wherein the first and second dispersion devices have opposite polarities of dispersion.

26. (Original) The system of Claim 25, wherein the first dispersion device is located at a node in a first office including a transmitter.

27. (Original) The system of Claim 26, wherein the transmitter comprises one or more optical transmitters coupled to a wavelength division multiplexed multiplexer.

28. (Original) The system of Claim 25, wherein the second dispersion device is located at a node in a second office including a receiver.

29. (Original) The system of Claim 28, wherein the receiver comprises a wavelength division multiplexed demultiplexer coupled to one or more optical receivers.

30. (Original) The system of Claim 29, further comprising one or more variable dispersion compensators coupled to the one or more optical receivers at the second end of the optical link.

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Original) The system of Claim 25, wherein an optical information signal is transmitted over a 200 kilometer section of the optical link without transmitting over a dispersion compensating module.

35. (Original) The system of Claim 25, wherein an optical information signal is transmitted over a 500 kilometer section of the optical link without transmitting over a dispersion compensating module.

36. (Original) The system of Claim 25, wherein an optical information signal is transmitted over a 1000 kilometer section of the optical link without transmitting over a dispersion compensating module.

37. (Original) The system of Claim 25, wherein the first dispersion device proximate the first end of the optical link configured to pre-distort for dispersion optical information signals transmitted over the optical link is a optical fiber with a same polarity as the optical link at a transmitted wavelength.

38. (Original) The system of Claim 25, further comprises a first amplifier proximate the first end of the optical link in connection with the first dispersion device.

39. (Original) The system of Claim 38, wherein the first amplifier is an erbium-doped fiber amplifier.

40. (Original) The system of Claim 38, wherein the first amplifier is a distributed Raman amplifier (DRA).

41. (Original) The system of Claim 25, wherein the second dispersion device proximate the second end of the optical link configured to compensate for dispersion optical information signals is a dispersion compensating module with a polarity opposite the optical link.

42. (Currently Amended) The system of Claim 25, further comprising ~~a second amplifier~~ an amplifier proximate the second end of the optical link in connection with the second dispersion device.

43. (Original) The system of Claim 42, wherein the amplifier is a distributed Raman amplifier.

44. (Original) The system of Claim 42, wherein the amplifier is an erbium-doped fiber amplifier.

45. (Original) The system of Claim 41, wherein the dispersion compensating module comprises Raman amplified dispersion compensating fiber (DCFRA).

46. (Currently Amended) The system of Claim 25, further comprising a ~~plurality of second amplifiers~~ plurality of amplifiers with a plurality of dispersion compensators proximate the second end of the optical link configured to compensate for dispersion optical information signals.

47. (Currently Amended) The system of Claim 25, further comprising a ~~plurality of first amplifiers~~ plurality of amplifiers with a plurality of dispersion compensators proximate the first end of the optical link configured to pre-distort for dispersion optical information signals.

48. (Currently Amended) An optical communication system, comprising:

a transmitter operable to multiplex a plurality of optical information signals and generate wavelength division multiplexed (WDM) signals;

an optical link operable to transmit the WDM signals, wherein the transmitter is coupled to one end of the optical link and a receiver is coupled to the other end;

a first dispersion device fiber coupled to the optical link proximate the transmitter with a polarity the same as the optical link operable to pre-distort ~~for dispersion~~ the WDM signal to introduce an initial dispersion in the WDM signal in the amount of at least 1000 picoseconds per nanometer (ps/nm), wherein this initial dispersion causes a widening of optical pulses of the WDM signal ~~and coupled to the optical link proximate the transmitter~~;

a plurality of in-line amplifiers without dispersion compensating modules coupled to the optical link;

a second dispersion device coupled to the optical link proximate the receiver with a polarity opposite the optical link operable to compensate for dispersion in the WDM signals in the amount of at least 10,000 ps/nm ~~and coupled to the optical link proximate the receiver~~; and

the receiver operable to demultiplex the WDM signals.